

REMARKS/ARGUMENTS

Objections Under 37 CFR 1.75(d)(1)

In paragraph 2 of the Office action, claims 8, 24, and 45 are objected to because of the limitation “said points correspond to center points” in line 1. These claims have been amended in accordance with the examiner’s assumption. More particularly, the phrase “said points” has been amended to “said positions.” Furthermore, these claims have been amended to refer both of “said positions” to “a” center point.

In paragraph 2 of the Office action, claims 10, 26, and 47 are objected to for referring to a “library” which is not disclosed in the specification. In response, paragraph 52 of the application as filed has been amended to recite the language used in claims 10, 26, and 47. The examiner will appreciate that the application as filed includes the “as filed” claims. Applicants may amend the specification to correspond with the originally filed claims without introducing new matter. Due to the amendment to paragraph 52, it is believed that the objection to claims 10, 26, and 47 is now overcome.

Claim Rejections Under 35 U.S.C. § 101

The examiner’s suggestion for claim 38 has been adopted. The memory 108 disclosed in FIG. 1 is referred to simply as a memory which carries software for implementing the character recognition method of the present invention. The specification further identifies the processor 107 as being responsive to the memory 108. See paragraph [0029] of the application as filed. The specification does not define “computer-readable medium” as a “signal, carrier wave, or transmission medium.” It is believed that the 35 U.S.C. § 101 rejection is overcome.

Claim Rejections Under 35 U.S.C. § 103

In paragraph 4 of the Office action, independent claims 1, 17, 33, and 38 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Sklarew (U.S. 5,297,216) and Bera (U.S. 6,754,387). The rejection is respectfully traversed.

Sklarew is directed to a handwritten keyboardless entry computer system. The examiner cites column 10, line 29, as disclosing a display element which is a “guide for positioning the input.” Claims 1, 33, and 38 have been amended to refer to a “physical template constraining an input device.” Support for that limitation may be found in paragraphs [0027] and [0030] of the application as filed which recite:

[0027] FIG. 1 shows one embodiment of the present invention where these edges are imposed on the text entry area of a PDA by means of a transparent plastic template 103 with, in this embodiment, a square hole 104. All text entry is performed inside this hole. Our experimental results show that extensive iteration of the character set has made the character forms highly guessable and easy to learn, maintaining a low cognitive workload for the user.

* * *

[0030] One difference between the preferred embodiment of the present invention and gestural techniques like Graffiti is that all stylus motion in the present invention occurs within a confined geometric shape, for example, a small plastic square hole that, in the preferred embodiment, is 1.3 cm on a side (1.69 cm²). This square hole bounds the input area with firm physical edges.

The constraining of an input device by a physical template is clearly distinguishable from the cited teachings of Sklarew.

On page 5 of the Office action, the examiner recognizes that Sklarew “does not specifically teach using a sequence of corner hits and identifying a symbol based on that sequence.” The examiner cites column 1, line 34 of Bera as supplying the missing teachings.

Bera, however, is referring to a different type of corner than the corners recited in the independent claims. In the claims, “corners” refer to where the edges of a template constraining an input device intersect. See, for example, paragraph [0027] and [0030] reproduced above. In Bera, “corners” refers to those positions in a coordinate system where the lines forming a polygon pattern intersect. In Bera, there is no physical template constraining an input device which provides “corners” that a user may hit to create a “sequence of corner hits.” For the foregoing reasons, it is believed that independent claims 1, 33, and 38 are patentable over the art of record.

Claim 17 has been amended to recite “identifying said letter character as being upper case when said unistroke ends in a common predetermined corner and lower case when said unistroke does not end in the common predetermined corner.” Similar subject matter is found in claims 3, 19 (now cancelled), and 40.

Turning now to the top of page 8 of the Office action, claims 3, 19, and 40 stand rejected on the basis of the combination of Sklarew and Bera. It is the examiner’s position that “if the patterns matches [*sic* match] an uppercase pattern, the stroke would end on the final corner for the character pattern.” Claims 3, 40, and independent claim 17 have been amended to make it clear that it is the ending on a *common* predetermined corner area that enables a lowercase letter to be made into an upper case letter. Support for the amendment to claims 3, 40, and independent 17 is found in paragraph [0035] which provides:

[0035] As in some other gestural alphabets, some letters resemble lowercase forms, while others resemble uppercase forms. All letters produce a lowercase form unless the capitalization suffix stroke is appended to the usual letter stroke. The suffix stroke may simply be a motion to, for example, the upper-left corner (think “up,” to “make it big”) after the regular letter form is made but before lifting the stylus. Note that, by design, no letters finish in the upper-left corner, allowing for this suffix stroke to be appended. In user studies, subjects had no trouble with this method of capitalization.

In view of the amendment to claims 3, 40, and independent 17, it is believed that those claims are now in condition for allowance.

Claims 13-16, 29-32, and 50-53 have been amended to recite that the corners are “corner areas” whose sizes and shapes may be varied “while said sequence of corner hits is determined.” Support for those changes is found in paragraphs [0043]-[0045] of the application as filed which provide:

[0043] The corners began naively as points rather than areas, and this proved to be inadequate, as users rarely hit the exact pixel in the corners. This was because users held their styluses at various angles. An angled stylus 105 impacts the edge of the plastic template hole 104 a few millimeters above its tip, causing the tip to jut a few pixels into the square even when the stylus is flush against the edge (FIG. 1).

[0044] After we increased the corner size to an appreciable area, two other problems emerged. Once moving, users would accidentally hit corners, particularly when making a diagonal stroke, as in an "s." But if the corners were made too small, users would often fail to hit them on pen-down, particularly in the backspace stroke (across the top or bottom edge from right to left). It seemed we needed large corners for when the stylus went down, but then small corners thereafter.

[0045] The next step in our design process added precisely this (FIG. 6): We inflated the corners until the stylus was detected within one of them, and then deflated all of them while the stylus was moving. Thereafter, users were able to easily hit the corners on pen-down and also avoid hitting them accidentally while moving the stylus.

It is believed that claims 13-16, 29-32, and 50-53 are in condition for allowance over the combination of Sklarew, Bera, and Dimond.

New claim 54 adds the concept of a unistroke to the claim string depending from claim 1. New claim 55 adds the concept of a physical template constraining an input device to claim 17. New claims 56-69 are article of manufacture claims corresponding to method claims 17 and 20-32. New claims 70 and 71 are article of manufacture claims corresponding to new method claims 54 and 55, respectively.

Applicants at this time choose not to present arguments in favor of the patentability of the remaining dependent claims not separately argued above. Applicants' silence with respect to those claims should not be viewed as acquiescence in the Office's position. Applicants reserve the right to present arguments in favor of the patentability of any of the dependent claims at a later date should that become necessary.

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Applicants have made a diligent effort to place the instant application in condition for allowance. Accordingly, a Notice of Allowance for pending claims 1-17, 20-36, and 38-71 is respectfully requested. If the examiner is of the opinion that the instant application is in condition for disposition other than through allowance, the examiner is respectfully requested to contact applicants' attorney at the telephone number listed below so that an interview may be scheduled.

Respectfully submitted,



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